

## Contribution to the Bulgarian ground-beetles fauna (Coleoptera: Carabidae). II

Borislav GUÉORGUIEV, Jan MUILWIJK

*Dyschirius arenosus*, *Trechus rubens* and *Bembidion starki* have been added to the Checklist of the Bulgarian ground beetles. So far, the localities of the latter two appear to be the southernmost known in their ranges. Registered nearly ninety years ago, *Ophonus oblongus* is again confirmed to exist in the fauna of the country and therefore in the fauna of Europe. Having revised the specimens announced as *Deltomerus sterbae*, the senior author has established their appurtenance to *Patrobus atrorufus*, so that the former genus and species should be deleted from the list of Bulgarian fauna. The appellation "*Patrobus Sterbai* n. sp." is a nomen nudum, introduced in 1908 by Rambousek. On the basis of literature sources and own revised specimens, the taxonomic status of *Carabus violaceus dryas* and *Platynus scrobiculatus purkynei*, which had been announced for the country in the past and later on not recognized by GUÉORGUIEV & GUÉORGUIEV (1995), is confirmed. Both subspecies are compared with and distinguished from some of their relatives in Bulgaria - *C. violaceus azurescens* and *P. scrobiculatus serbicum*, respectively. Finally, some notes on the taxonomy of the other two members of *Platynus* Bonelli - *proximus* and *amicorum* are presented, whereby to the latter is given a species status.

Most of the specimens studied have been examined by the senior author and they are preserved in the collections of the National Museum of Natural History, Sofia (NMNHS). Their indications have been omitted further in the text. The junior author has determined several specimens (afterwards checked by D. Wrase), collected by him during his 1999 and 2000 trips in Bulgaria. Their indications are presented at the respective places in the text.

### CARABINI

*Carabus (Megodontus) violaceus azurescens* Dejean, 1826 (= *rilvensis* Kolbe, 1887; = *balcanicus* Lapouge, 1901, nec Born, 1899; = *skombrosensis* Eidam, 1927; = *sofianus* Eidam, 1927; ? = *purkynei* Štěrba, 1945)

**Material examined:** 14 individuals - 4 ♂, 2 ♀ from different localities of the Central Balkan Mts., 1200-2100 m, V-VIII., leg. B. Guéorguiev; 1 ♂,

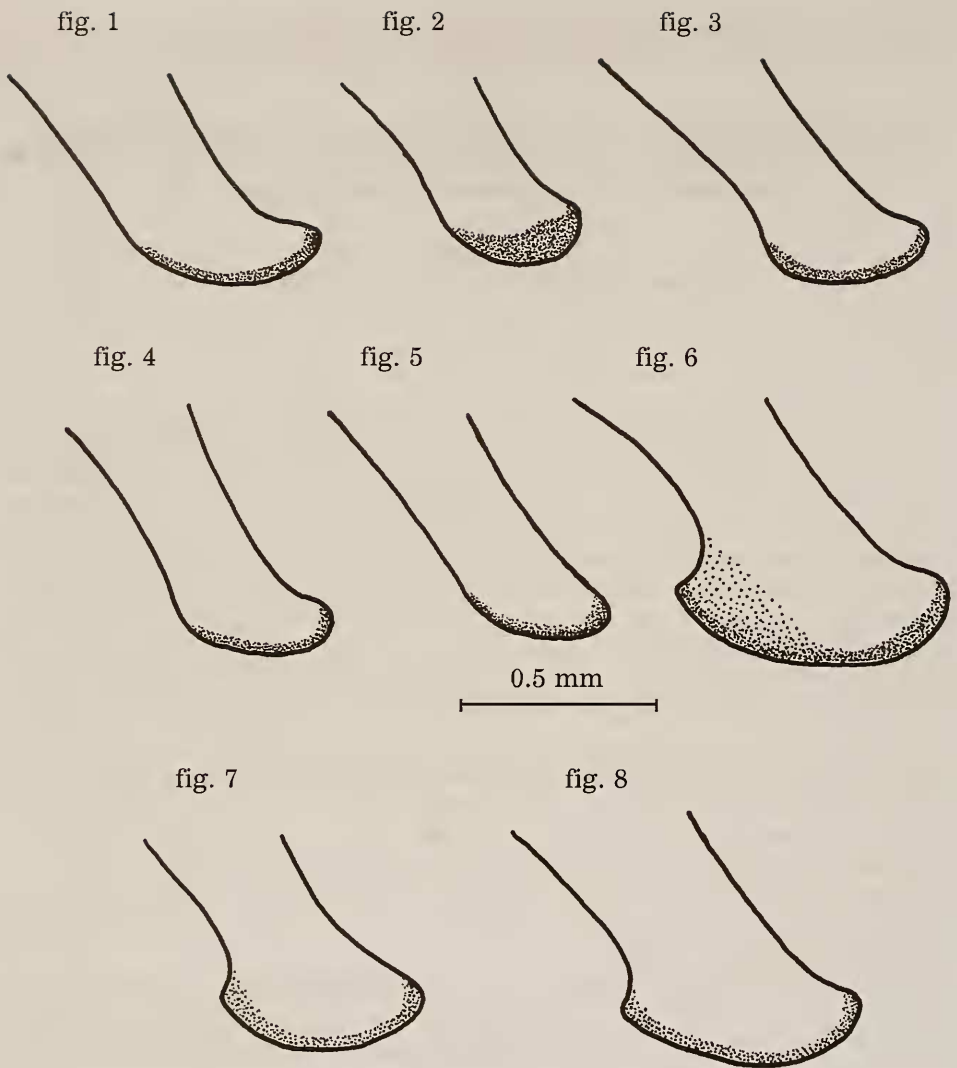


Fig. 1-8. Lateral aspect of the apex of the median lobe of *Carabus violaceus*: 1 - ssp. *azurescens* (Central Balkan Mts., Vezhen Peak); 2 - ssp. *azurescens* (Pirin Mtn., above Razlog); 3 - ssp. *azurescens* (Pirin Mtn., Bunderitsa Chalet); 4 - ssp. *azurescens* (West Rhodopes Mts., Rozhen); 5 - ssp. *azurescens* (Black Sea Coast, Maslen Nos); 6 - ssp. *dryas* (Slavyanka Mtn., Hambardere); 7 - ssp. *dryas* (Slavyanka Mtn., Livadi); 8 - ssp. *dryas* (central Pirin Mtn., N of place Popovi Livadi)

Vitosha Mtn., 1000 m, 19.X.1992, leg. B. Guéorguiev; 1 ♂, Rila Mtn., Parangalitsa, VII.1932, leg. P. Drensky, sub *M. v. a. scombrosensis*, det. Pittioni and 1 ♀, Cham kuria, 23.VII.1938, leg. I. Buresch, sub *M. v. a. scombrosensis*, det. Pittioni; 2 ♂, West Rhodopes Mts., Rozhen, 8.IX.1992, leg. B. Guéorguiev; 1 ♂, Pirin Mtn., Bunderitsa Chalet, 27.VI.1971, leg. P. Beron and

1 ♂, above Razlog, 2.VIII.1994, leg. P. Stoev; 1 ♂, Black Sea Coast, Maslen Nos, 16.VII.1933, K. Tuleshkov (wrongly labeled "Strandja-Geb.", in English Strandzha Mtn. - a mountain where *C. violaceus* does not occur; cf. GUÉORGUIEV & GUÉORGUIEV, 1995: 50).

**Taxonomic status.** Undoubtedly a distinct subspecies, limited only to the Balkans (BŘEZINA, 1999). It inhabits most of the mountains in Bulgaria, excluding the Slavyanka Mtn., and the southern and middle parts of the Pirin Mtn. *C. v. azurescens* is definitely distinguished from the other subspecies *C. v. dryas* by the shape of the apex of the median lobe laterally (Figs 1-8). The male specimens from the northern Pirin Mtn. belong rather to *azurescens* (Figs. 2-3) than to *dryas* although they indicate some kind of intermediate pattern. It should also be noted that the only individual known from the Maslen Nos Cape has a median lobe (Fig. 5) dissimilar to that of the typical *azurescens* (Figs. 1-4). The region of the Maslen Nos is known as a refuge where several mountain species occurred during the Pleistocene.

Judging from the paper of ŠTĚRBA (1945) - the key and figure of the median lobe (ibid., Fig. 3), the form *C. v. azurescens* n. *purkynei* from the Belasitsa Mtn. should be considered closer to *azurescens* than to *dryas* (cf. BŘEZINA, 1999).

***Carabus (Megodontus) violaceus dryas* Gistel, 1857 (= *shardaghensis* Apfelbeck, 1918; = *bartoni* Mařan, 1930; = *peristericus* Mandl, 1961; = *pirinensis* Mandl, 1985)**

**Material examined:** 12 individuals - 1 ♂, 1 ♀, central Pirin Mtn., N of Popovi livadi, 1400-1500 m, 20.V.1996, leg. B. Guéorguiev; 1 ♂, Slavyanka Mtn., Tsarev Peak, above 2000 m, 13.VI.1938, leg. Y. Tsonkov; 2 ♂, 1 ♀, Slavyanka Mtn., Hambardere, 1100-1500 m, 22.V.1996, leg. B. Guéorguiev; 5 ♂, 1 ♀, Slavyanka Mtn., Livadi, 1440-1450 m, *Fagus/ Pinus* sp. forest, 16.VII.1998, leg. V. Gashtarov.

**Taxonomic status.** Recently listed as valid, morphologically well-defined subspecies (BŘEZINA, 1999). In Bulgaria it inhabits the Slavyanka and Pirin mountains (without the northern part of the latter) and it has been cited as *C. violaceus azurescens* n. *bartoni* (MAŘAN, 1930; 1933; 1939; ŠTĚRBA, 1945), *C. violaceus azurescens* m. *shardaghensis* (BREUNING, 1935), *C. piceus peristericus* n. *bartoni* (TARRIER, 1974), *C. violaceus pirinensis* Mandl (MANDL, 1985). The most reliable feature distinguishing the local populations of *dryas* and *azurescens*, is the shape of the apex of the median lobe laterally (Figs 1-8). The former has an apex with an angulate "heel" while in the latter the same character is undeveloped.

It should be noted that in the Shar Range, NW Macedonia, *dryas* (GUÉORGUIEV, 1998, sub *C. (piceus?) violaceus korabensis* Csiki, Figs 1-2) is syntopic and sympatric with *azurescens*.

## DYSCHIRIINI

### ***Dyschirius arenosus* Stephens, 1827**

**Material examined:** single 1 ♀, the Southern Black Sea Coast, near

Sinemorets Village, 21.07.1999, on light, leg. J. Muilwijk, det. & coll. J. Muilwijk, checked D. Wrase.

**Notes.** A new species for the fauna of Bulgaria. For the time being this is the first member of the "*arenosus*" species group in the country (cf. FEDORENKO, 1996). The find near Sinemorets appears to be one of the few localities known south of 43° latitude (cf. ZABALLOS & JEANNE, 1994; FEDORENKO, 1996, Fig. 192).

## TRECHINI

### *Trechus (Trechus) rubens* Fabricius, 1801

**Material examined:** 5 individuals - 1 ♀, West Rhodopes Mts., Popovete near Prohled Village, 27.VI.1994, leg. D. Rajchev; 1 ♀, West Rhodopes Mts., near Sarnitsa Village, 15.07.2000 and near Trigrad Village, 21.07.2000, 2 ♂, 2 ♀, leg. J. Muilwijk, det. & coll. J. Muilwijk, checked D. Wrase.

**Notes.** A new species for the fauna of Bulgaria. *T. rubens* is a circumpolar species (Europe, Caucasus, Middle Siberia, Transbaikalia), common in North Europe. In Central and South Europe it is rare and restricted to the mountains (cf. JEANNEL, 1927; KRYZHANOVSKIJ et. al., 1995, note 123). Introduced in the NE parts of North America (BOUSQUET & LAROCHELLE, 1993). On the Balkans it is known from Slovenia, Croatia, and Bosnia (DROVENIK & PEKS, 1999). The finds in the West Rhodopes are the first records of this taxon south of 42° latitude.

## BEMBIDIINI

### *Bembidion (Eupetodromus) starki* Schaum, 1860

**Material examined:** single 1 ♀, surroundings of Archar Village, Vidin District, under stones and barks, 17.VI.2000, leg. S. Lazarov.

**Notes.** A new species for the fauna of Bulgaria and second member of the subgenus. *B. starki* is one of the rarest and extremely restricted ground-beetles with Central European distribution: Switzerland (MARGGI, 1992a, single locality, included in the red list of the country; MARGGI, 1992b), south Bavaria, Austria and Hungary (HORION, 1941), the Ukrainian Carpathians (KRYZHANOVSKIJ et. al., 1995), Slovenia and Croatia (DROVENIK & PEKS, 1999, in both countries known from single localities), Bosnia and Romanian Bukovina (NETOLITZKY, 1942). The locality by Archar is valuable because it expands the range of the species to the southeast and particularly because it is the first record of the species south of 44° latitude.

## PATROBINI

*Patrobus atrorufus atrorufus* (Ström, 1768) (= *excavatus* Paykull, 1790; = *exavatus bulgaricus* Roubal, 1928)

**Material examined:** 3 individuals of *P. a. atrorufus* - 1 ♂, labeled "Bulgaria: Sofia, Germ. mon. VI. 08, Rambousek / *Patrobus Sterbai* n. sp. /

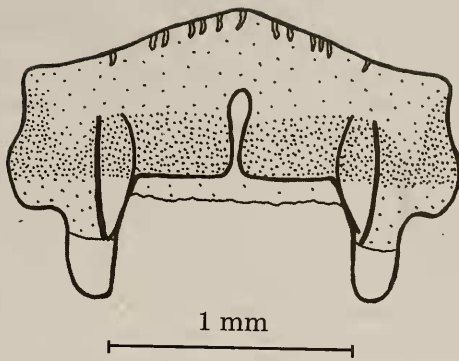


fig. 9

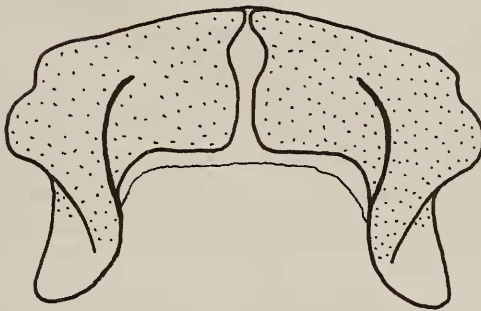


fig. 10

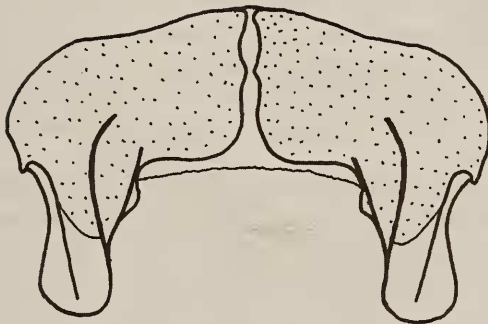


fig. 11

Figures 9-11. Ventral line drawings of male sternum 8 of *Platynus*: 9 - *proximus* (Vasiljovska Planina Mtn., near Golyama Zhelyazna Village); 10 - *scrobiculatus purkynei* (East Rhodopes Mts., between villages of Nedelino and Izgrev, Kardzhali District); 11 - *scrobiculatus serbicum* (Lyulin Mtn., below Dupevitsa Peak)

det. Rambousek"; 1 ♂, 1 ♀, labeled: "Bulgaria: Sofia, Germ. mon. VI. 08, Rambousek / *Sterbai* m det. Rambousek", both specimens bearing third labels, the male one: "*Patrobus atrorufus* Stroem Kryzhanovskij det.", and female one: "var. *bulgaricus* Dr Mařan det".

**Other material examined:** 3 individuals (2 of them the cotype specimens) of *Deltomerus (Deltomerus) sterbae* (Rambousek, 1909), labeled: "Maced. Pelister alpin. VII. 14 Dr. Rambousek/ *Penetretus Sterbai* det. Rambousek".

**Notes.** The three specimens collected in the Lozenska Mtn. actually belong to *P. atrorufus* and not to *D. sterbae*. It seems that "*Patrobus Sterbai* n. sp." is a nomen nudum, which does not refer to the genus *Deltomerus* Motschulsky. In fact Rambousek intended to describe a new taxon of genus *Patrobus* Dejean, which later was designated as *P. exavatus* var. *bulgaricus* Roubal (ROUBAL & SCHAUBERGER, 1928). Unless a special investigation of the infraspecific taxonomy of *P. atrorufus* (s.l.) is not carried out (cf. HÜRKA, 1996), the abovementioned material should be referred to the nominate subspecies.

Therefore *D. sterbae*, recorded by mistake to exist in the country (GUÉORGUIEV, 1992; GUÉORGUIEV & GUÉORGUIEV, 1995) should be excluded from the list of our fauna. It represents a palaeoendemic form living only in the subalpine and alpine belts of the Pelister (= Baba) Mtn. in SW Macedonia.

## PLATYNINI

### *Platynus (Platynus) proximum* (Frivaldszky, 1879)

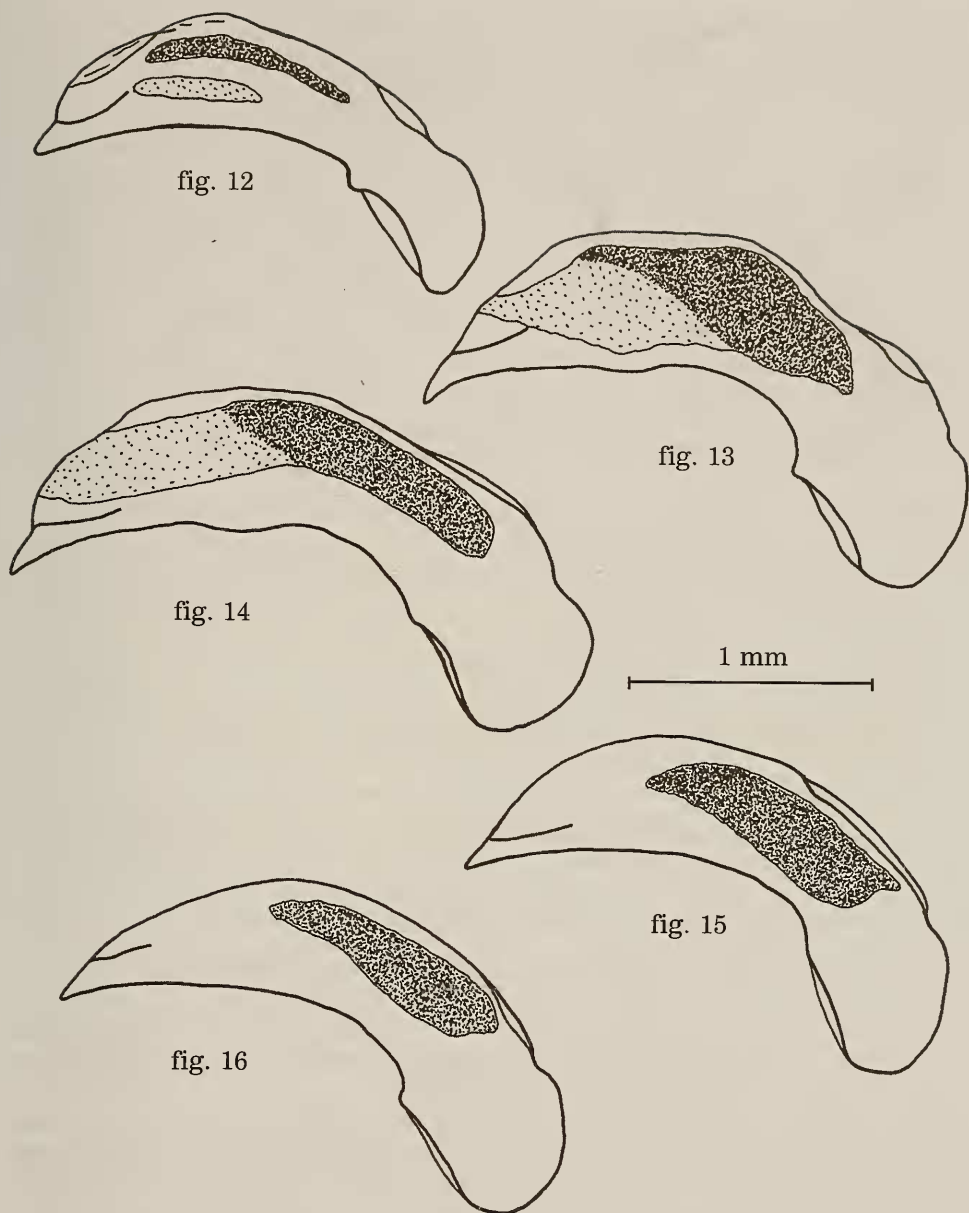
**Material examined:** 3 individuals - 1 ♂, 1 ♀, Central Predbalkan, Vasiljovska Mtn., near Golyama Zhelyazna Village, spring in front of the cave "Toplya", 27-28.IX.1997, B. Guéorguiev; 1 S, West Balkan Mts., Murgash Massif, SE of Murgash Peak, spring of Zherkovska Reka River, ca. 1600 m, 19.V.2000, leg. B. Guéorguiev. A new species for the territory of the West Balkan Mts.

**Taxonomic status.** Morphologically and geographically well-defined species (CSIKI, 1904), endemic for the mountain parts of the West and Central Balkan. Males have a more transverse sternum 8 (Fig. 9), finer and smaller medial lobe (Fig. 12) and more oval left paramere (Fig. 17) than in the respective sclerites of *scrobiculatus* (s. l.) (Figs. 10-11; 13-16; 18-21). It seems that *proximus* is a sister taxon of *anatolicum* Schmidt (SCHMIDT, 1996).

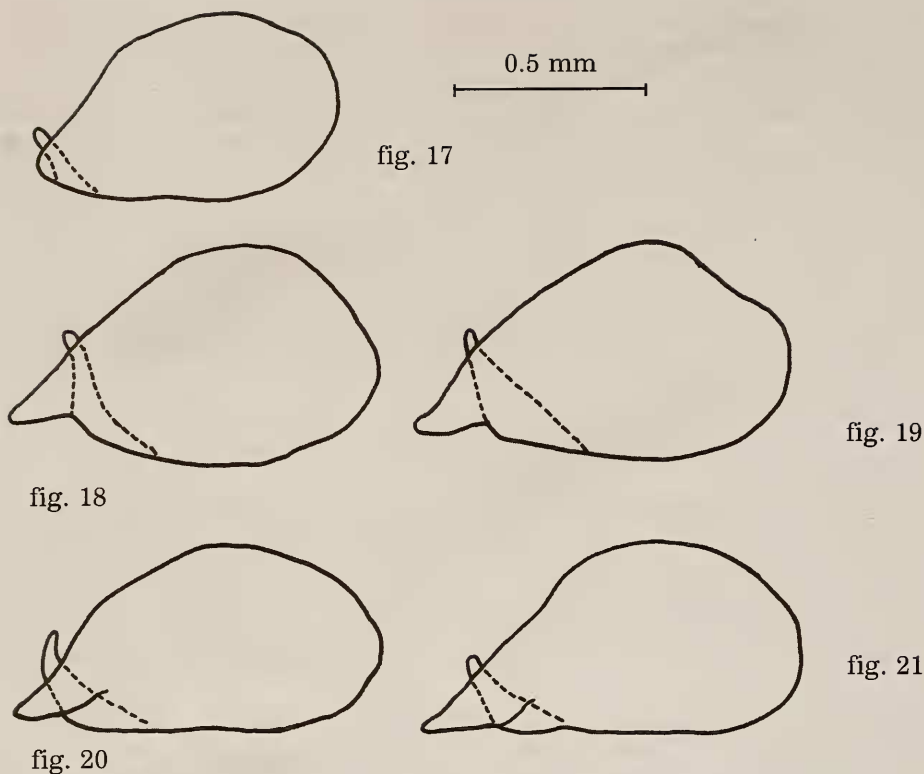
### *Platynus (Platynus) scrobiculatus purkynei* Obenberger, 1917

**Material examined:** 6 individuals - 1 ♂, West Rhodopes Mts., above Momchilovtsi Village, 14.IV.1983, leg. P. Mitov; 1 ♂, West Rhodopes Mts., near Mogilitsa Village, 9.XI.1997, leg. B. Petrov; 1 ♀, West Rhodopes Mts., Yagodinsko Zhdrelo Gorge, 23.IX.2000, leg. S. Lazarov; 1 ♀, East Rhodopes Mts., Kran Village, Krumovgrad District, 700 m, disused mine gallery on the road to Makaza Pass, length ca. 6 m, 11.XII.2000, under stone, leg. B. Petrov, S. Beshkov, M. Langourov, 1 ♂, East Rhodopes Mts., between villages of Nedelino and Izgrev, Kardzhali District, beech litter, 850 m, 13.XII.2000, leg. B. Petrov, S. Beshkov, M. Langourov, 1 ♂, West Rhodopes Mts., along Kanina River near Kovachevitsa Village, 940 m, 1.VIII.2001, leg. B. Guéorguiev. A new taxon for the East Rhodopes Mts.

**Taxonomic status.** Described as a distinct subspecies (OBENBERGER, 1917; type locality: near Smolyan), after that it was treated as a synonym (GUÉORGUIEV & GUÉORGUIEV, 1995) or subspecies (SCHMIDT, 1996) of *scrobiculatus* Fabricius. *P. s. purkynei* inhabits the Rhodopes Mts. on the Balkans and the Kure Daglari Mtn. in the northern-central part of Asia Minor (ibid.). It



Figures 12-16. Lateral aspect of the median lobe of *Platynus*: 12 - *proximus* (Vasiljovska Planina Mtn., near Golyama Zhelyazna Village); 13 - *scrobiculatus purkynei* (East Rhodopes Mts., between villages of Nedelino and Izgrev, Kardzhali District); 14 - *scrobiculatus purkynei* (West Rhodopes Mts., above Momchilovtsi Village); 15 - *scrobiculatus serbicum* (West Balkan Mts., Murgash Massif); 16 - *scrobiculatus serbicum* (Osogovo Mtn., near Stradalovo Village)



Figures 17-21. Shape of the left paramere of *Platynus*: 17 - *proximus* (Vasiljovska Planina Mtn., near Golyama Zhelyazna Village); 18 - *scrobiculatus purkynei* (East Rhodopes Mts., between villages of Nedelino and Izgrev, Kardzhali District); 19 - *scrobiculatus purkynei* (West Rhodopes Mts., above Momchilovtsi Village); 20 - *scrobiculatus serbicum* (West Balkan Mts., Murgash Massif); 21 - *scrobiculatus serbicum* (Osogovo Mtn., near Stradalovo Village)

differs from the other Bulgarian subspecies - *serbicum* (Figs. 11; 15-16; 20-21) in the shape of sternum 8 (Fig. 10), the more robust median lobe (Figs. 13-14) and the more oval left paramere (Figs. 18-19).

**Notes.** The other Anatolian representative of *scrobiculatus* - *P. s. amicum* Schmidt (type locality: Giresun District) is obviously quite more different from the European forms of the species, including the Anatolian population of *purkynei*, in the too downwards-curved apex of the median lobe (cf. SCHMIDT, 1996, Abb. 1, 5). That is why the senior author considers *amicum* as a separate species: *Platynus (Platynus) amicum* Schmidt, 1996 **stat. nov.**

*Platynus (Platynus) scrobiculatus serbicum* Csiki, 1904 (? = *scrobiculatus turcicus* Apfelbeck, 1904)

**Material examined:** 27 individuals - 2 ♂♂, 1 ♀, West Balkan Mts., Murgash Massif, brook south of Murgash Peak, ca. 1200 m, 18.V.2000, leg. B.



Guéorguiev; 1 ♂, 1 ♀, Lyulin Mtn., below Dupevitsa Peak, 900-1100 m, 13.V.1998, beech forest, leg. B. Guéorguiev; 1 ♂, 1 ♀, Vitosha Mtn., 12.V.1942; 2 ♂♂, 2 ♀♀, Osogovo Mtn., near Stradalovo Village, 800 m, traps V-VI.1996, leg. B. Guéorguiev; 16 specimens, Belasitsa Mtn., Vodopada, 700 m, 20.X.1993, leg. V. Sakalian. New for the Balkan (= Stara Planina) Mts.

**Taxonomic status.** Described as a separate species (CSIKI, 1904; type locality: near Ruplje, SE Serbia), after that it was treated as a species (MAŘAN, 1933; GUÉORGUIEV & GUÉORGUIEV, 1995) or subspecies (GUÉORGUIEV, 1998; 1999; DROVENIK & PEKS, 1999) of *scrobiculatus* Fabricius. Simultaneously with CSIKI (op. cit.), APFELBECK (1904) published the description of a new subspecies - *P. scrobiculatus turcicus* (type locality: "Celebic", SE Bosnia); the same form was announced from Maglic Mtn., Montenegro by OBENBERGER (1917). In the catalogue of the carabids of former Yugoslavia (DROVENIK & PEKS, 1999) only *P. scrobiculatus serbicus* is mentioned, the name of *turcicus* being omitted. Obviously the two authors considered *turcicus* as a synonym of *serbicus*.

*P. scrobiculatus serbicus*, living in SE Bosnia, Montenegro, Serbia, and SW Bulgaria (in the east to the Strouma River), at first sight, could be distinguished from *P. scrobiculatus purkynei*, inhabiting the Rhodopes Mts., by the somewhat more pointed hind angles of the pronotum and the less oval elytra. However, the shape of the sternum 8 (Fig. 11), the finer median lobe (Figs. 15-16) and the more elongate left paramere (Figs. 20-21) remain the surest diagnostic characters. It should be noted that the authors' lack of specimens of *scrobiculatus* from the massifs of the Rila, Pirin and Slavyanka Mts. at his disposal spin out the problem with the exact geographical border between the two subspecies - Mesta River or Strouma River. Presumably *purkynei* and *serbicus* can be regarded as geographical vicariants.

## HARPALINI

### *Ophonus (Macrophonus) oblongus* (Schaum, 1858)

**Material examined:** single ♀, Burgas District, Polski izvor Village, 19.VI.1950, leg. B. Zaharieva.

**Note.** It was registered in Bulgaria by APFELBECK (1894; 1904) and by RAMBOUSEK (1912). Indicating Apfelbeck's data from Greece to be quite old and omitting the find from Bulgaria, SCIACKY (1988) considered *oblongus* as problematic for the fauna of Europe, although he himself registered the species in Edirne - European Turkey. The data published here confirm the species as belonging to the Bulgarian, respectively to the European, fauna.

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Author's addresses:

Dr Borislav Guéorguiev  
National Museum of Natural History  
1, Tsar Osvoboditel Blvd  
Sofia 1000, Bulgaria  
e-mail: bobivg@yahoo.com

Jan Muilwijk  
Aeolusweg 133  
3731 XE De Bilt, the Netherlands  
e-mail: koen.muilwk@tip.nl

# Принос към българската фауна на бръмбарите-бегачи (Coleoptera: Carabidae). II

Борислав ГЕОРГИЕВ, Ян МЪОЙЛВЕЙК

(Резюме)

Съобщени са *Dyschirius arenosus*, *Trechus rubens* и *Bembidion starki*, нови за фауната на страната. За последните два вида установените находища са най-южните в ареалите им. *Ophonus oblongus*, съобщен преди близо 90 години, е потвърден отново за фауната на България (респ. за Европа). Въз основа на ревизиран материал *Deltomerus sterbae* е изключен от списъка на българските карабиди. Названието *Patrobus sterbai* преставалява помен nudum, въведено през 1908 от Rambousek. Потвърден е таксономичният статус на *Carabus violaceus dryas* и *Platynus scrobiculatus purkynei*, като и двата подвуда са сравнени и разграничени съответно от *C. violaceus azurescens* и *P. scrobiculatum serbicum*. Представени са и кратки бележки върху таксономията на други два представителя на род *Platynus* - *P. proximus* и *P. scrobiculatum amicorum*, като последният е издигнат до ранг на самостоятелен вид (stat. nov.).